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SURGERY OF THE KNEE-JOINT.

BY THE SAME AUTHOR.
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IN PREPARATION.

A TREATISE ON ORTHOPÆDIC SURGERY.

ON THE SURGERY OF THE KNEE-JOINT,

AND

*THE RESPONSIBILITY PLACED ON THE
PHYSICIAN AND GENERAL PRACTITIONER
BY THE MODERN PROGRESS OF SURGERY;*

BEING THE

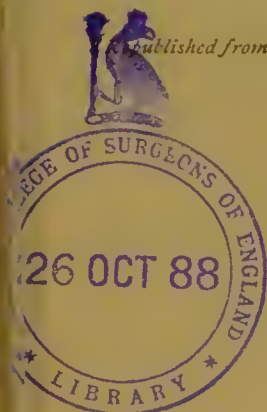
INAUGURAL AND RETIRING PRESIDENTIAL ADDRESSES
DELIVERED BEFORE THE WEST LONDON MEDICO-
SURGICAL SOCIETY, ON OCTOBER 7TH, 1887,
AND MAY 4TH, 1888, RESPECTIVELY.

BY

C. B. KEETLEY, F.R.C.S.,

SENIOR SURGEON TO THE WEST LONDON HOSPITAL, AND SURGEON TO
ITS ORTHOPEDIC DEPARTMENT.

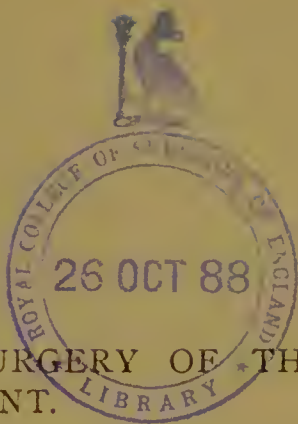
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I.

ADDRESS ON THE SURGERY OF THE KNEE-JOINT.

*Delivered before the West London Medico-Chirurgical Society,
Oct. 7th, 1887.*

GENTLEMEN,—I propose to contrast the treatment of the principal affections of the knee-joint and its immediate neighbourhood as practised at the present day with that in favour with the leading surgeons ten years ago.

The knee is a region pre-eminently fitted to be chosen for such a contrast. It is so superficial that the alterations produced in it by disease are manifest and clearly marked. It is so liable to disease and so exposed to accident that the most youthful and inexperienced surgeon is familiar with it. Its affections are also types of all surgery; not only are chronic pulpy disease of the synovial membrane of the knee and central necrosis of the head of the tibia types of similar affections which attack the other great synovial membranes and epiphyses of the body, but even genu valgum, properly understood, is a key to the comprehension of scoliosis, of flat foot, and of other leading deformities, of which a false pathology, a false etiology, and a misguided treatment are even

to this day too frequently taught and practised. Let anyone study carefully the facts and opinions on chronic disease of the knee-joint to be found in the handbooks and monographs of ten years ago, and he cannot fail to see that in those days, recent as they are, the rich man with chronic knee-joint disease who submitted to an operation was little better than a fool, while the poor man who was operated on in order to get independence and the means of earning a living for himself and his family was a hero. In short, ten or twelve years ago, it was the practice, and then the correct practice founded on the experience of the time, to tell a patient with a diseased knee, if he was no longer quite young, that his choice lay between, on the one hand, immediate amputation of the thigh, and, on the other, a long, tedious process of treatment, very likely involving three, five, or even ten years' incapacity for following his employment, and, as likely as not, ending in amputation after all. He had also to be told that his chances of life and death after amputation were no better than two to one.* If the patient were a child or an adolescent, not very different information could be honestly given. Amputation at that age was comparatively safe, but excision was still very dangerous. Of ninety-seven cases collected by Bryant, twenty-seven died.

Scarcely less serious were the long periods required for treatment after excision. 'Roughly speaking, the

* Bryant's statistics of 119 amputations in patients between the ages of twenty and forty. See Erichsen, vol. ii., p. 272 (date 1877).

average duration of treatment (after excision) was about eight months,' wrote Holmes ; but this is short compared to the period during which the poor patients, almost all belonging to the lower orders, probably required treatment, but did not get it, from sheer weariness on the part of the doctor or the patient, or the parents of the latter, or from the pressure of house-committees.

Now let us turn to the present time. In the first place, it is now, practically speaking, quite safe for a surgeon experienced in such operations to open wide the knee-joint and explore its every crevice ; moreover, within two or three months he can expect to see every part of the joint and every muscle acting on it completely restored again. The history of the operation for suture of the patella proves this. It is true that some unfortunate results have occurred and a few fatal ones ; but when we remember what a large number of sutures of the patella have been done by surgeons with little or no practical experience of such operations, and many of them quite recent converts to a faith in antiseptic surgery, after being trained to habits absolutely inconsistent with it, and, like all habits, difficult to shake off—when we bear these facts in mind, we should be surprised, not at the occasional failure of the operation, but at its frequent success. But this is not a mere question of numbers. Look at the *quality* of the success in most cases of antiseptic suture of the patella, the rapid convalescence, the perfect restoration of function, and the absence of every sign of danger from first to last.

In the matter of operations, a surgeon can speak,

after all, only for himself, and for those with whose practice he is personally familiar: it is, therefore, merely a cautious and guarded mode of speaking, and not vain boasting, when I say that I feel less fear now about opening and examining a knee-joint than I felt ten years ago about excising a fatty tumour. Not that I can count excisions of the knee by the dozen, but because for some years I have been week by week acting on the faith I have just declared, and have found in every bone and every joint, and nearly every cavity of the body, my confidence justified. But I never myself commenced to practise in any department of operative surgery without feeling the disadvantages of inexperience, and being, moreover, shown by the course of events what dangers are run by the patient on whom the surgeon tries his 'prentice hand. For instance, my first case of osteotomy suppurated and did no good. In only two instances since has a single drop of pus formed, and in these two the ultimate result was excellent and not long delayed. In fact, let us never forget to distinguish between the dangers of an operation and of the particular operator who does it.

It is no longer necessary for the honest surgeon to tell his patient with diseased knee that to submit to operation is to run a risk as great as that of fighting in a forlorn hope. On the contrary, given a patient free from consumption, not hopelessly exhausted and broken down, and not over forty years of age, I can honestly tell him that I can open his knee-joint and either remove the diseased parts, or excise the joint, or amputate, according to what may be required in

his individual case, with no fear of serious risk to life. And the prognosis as regards the quality of the limb, if saved by operation, is also extraordinarily improved.

What was the ordinary result of a successful operation ten years ago? A limb greatly shortened, the foot sometimes nearly on a level with the lower part of the opposite calf, the knee often greatly bowed outwards and bent forwards, almost always absolutely stiff, and if movable, weak and unreliable. Now, as to shortening, I will, if all be well, exhibit in the course of the session a series of cases, each a type of a different mode of operating suitable for cases like itself. In only one will you detect marked shortening, and that scarcely enough to be either a disfigurement or an inconvenience. In one of these cases there is excellent mobility, and no weakness therewith. How long were they in hospital after operation? An average of two or three months each. Has any sinus or sign of disease remained? No.

It remains now to indicate how these improved results can be attained. In the first place, it is now recognised that the diseased soft parts, the degenerated synovial membrane, and the infected bursæ require removal as much as do the carious portions of bone. Not a hint of this was to be read, at all events in English works, a dozen years ago. Secondly, healthy bone is, as a rule, left alone. The practice of removing sound bone or cartilage, because they *might* become diseased if left, should now be scouted as ridiculous, if not monstrous. Whatever healthy bone is taken away is removed for mechanical reasons:—

e.g., to prepare two surfaces suitable for cohesion when speedy osseous ankylosis is expressly desired, or to give access to concealed parts, or to make a channel for drainage. Thirdly, when disease has spread to the shaft of the bone, the medulla is scraped out, and the surgeon does not go on either slicing away one inch after another of the shaft, or else proceeding to amputation instead of excision.* Fourthly, the effect of certain drugs on the diseased parts is known and utilized. Fifthly, the joint is opened in such a way and closed, after operation, by such means as completely restore the joint capsule and the muscles and aponeuroses around it. Sixthly, a better system of drainage has been introduced. Seventhly, dressing and after-treatment have been greatly improved. Eighthly, after excision the bones are wired. The diseased soft parts, the pulpy synovial membrane, and so much of the ligaments and bursæ as may be diseased, are carefully cut away with scissors. In many cases these are the very centre and focus of the disease, such bone and cartilage as may suffer being attacked quite secondarily, and sometimes to an insignificant extent—as, for instance, was the case with the young woman whom I will show you, who recovered rapidly and with a very movable joint. This excision of soft parts has to be done with great care and thoroughness; but it is not necessary to remove absolutely every vestige of disease in order to effect a cure. In this respect tuberculosis of the joints differs markedly from cancer. As a matter of fact, tuberculosis tends to die a natural death. Time will kill local tuber-

* See 'Annals of Surgery,' 1885, vol. i., p. 1.

culosis unassisted by the surgeon. The misfortune is that it is so dilatory in the exercise of its healing powers that very often the patient or his joint, or both, are destroyed before the disease, but when vigorously helped by the surgeon, time wakes up as it were. It has been often observed, after excision of a joint, that tuberculous granulations have sprung out, say, from a sinus left by a drainage tube, lived a precarious existence, and then perished spontaneously, or with very little interference from the surgeon. Nevertheless, it is well to operate with the greatest possible care and thoroughness.

Next, with regard to the treatment of healthy bone, it used to be the rule to take away the patella lest it might become diseased. Some surgeons—*e.g.*, P. H. Watson of Edinburgh—opposed the practice, but they were exceptions. Now, when once the tuberculous foci have been found and thoroughly removed, not an atom of bone should be cut away except to favour drainage, or to make opposed surfaces fit after excision. After a really complete and systematic operation on a tuberculous knee-joint the fear of recurrence is small. And if we are to attempt to abolish it by removing all cancellous bone in which the return can possibly take place, amputation may as well be done at once. In fact, those surgeons who, with these views, always amputate and never excise are strictly logical. In children, more bone and articular cartilage have usually to go than in adults. I have several times completely, or almost completely, scraped out the bony part of the epiphyses, always carefully leaving the so-called epiphysial cartilage,

and removing no more of the articular cartilage than was either necessary to give entrance to the sharp spoon, or was itself diseased. The cartilage on those parts of the femoral condyles which actually touch the opposed articular surface should be, as far as possible, left untouched. Any small diseased points in it may be carefully picked out. If both articular and semilunar cartilages are healthy, the latter may be left.

Now with regard to drugs. Those best adapted for the purpose are solutions of sublimate (1 in 1,000), and iodoform in crystals. That the latter has a really specific influence on the tuberculous *materies morbi* (it is quite unnecessary to enter into the question of whether it is or is not Koch's bacillus) can scarcely be doubted. Always should iodoform crystals be dusted over the surface operated on, and especially in the crevices and recesses of the joint, where there is most danger of portions of infected tissue having been left behind. To place the iodoform in these, the cutting spoon may itself be used, in its capacity as a spoon, not as a cutting instrument. The iodoform should be placed before the Esmarch's bandage is removed and while the joint is dry. Free sponging and douching with the sublimate solution should precede the iodoforming. It is dangerous, expensive, and not necessary to use iodoform extravagantly, and the crystals, as being less quickly and easily absorbed, are safer than the ground powder. An ethereal solution of iodoform may be used. It will penetrate into every crevice and deposit a thin layer of the drug on every surface. But it is irritating to

the eyes of the surgeon and his assistants, especially if it has been long kept.

The manner of opening the joint is very important. For a thorough exploration of the knee-joint a transverse incision is essential, and it must be supplemented by a perpendicular incision to open the synovial pouch, which extends upwards beneath the extensor cruris. The transverse incision may divide either the patella itself or the ligamentum patellæ; preferably the former, I think. A strong knife will cut a child's patella, but an adolescent or adult requires a saw. I prefer to divide the patella because (1) it can be so easily, certainly, and perfectly reunited; and (2, a minor and almost superfluous argument) the section shows accurately the condition of the centre of the bone. I doubt whether a sutured ligament is as strong and trustworthy as a sutured bone. Therefore one should, if possible, avoid dividing the lateral ligaments. When divided they should be carefully sutured at the conclusion of the operation. A short supplementary incision may be made anywhere, if required to expose any otherwise inaccessible angle or crevice. In the West London Hospital, some years ago,* I introduced a new mode of opening the joint, applicable when it is not infected with tubercular disease—*e.g.*, when excision is to be done for injury or for orthopædic purposes, and particularly applicable as an exploratory incision in cases of injury to the knee-joint. It consists in a long perpendicular incision through the patella, ligamentum patellæ, and anterior wall of the upper synovial pouch. Ollier of Lyons

* September 11th, 1883.

had described and recommended this incision a few months before I did it ; but, to the best of my belief, mine was the first case, and I was led to operate thus, certainly not by Ollier's paper, of which I had not then heard, but by the simple intention of obeying one of the first rules of the surgery of the limbs, which is always to prefer a longitudinal incision where it will suffice. The same operation has been recently and independently devised by Mr. Herbert Allingham. I would not, however, employ it for tuberculous disease ; it does not, in my opinion, give sufficient view and access for operating thoroughly and minutely.

On the table is a specimen of a knee-joint which I explored in this manner. The condyles were merely bruised. There was a compound fracture just above but not into the joint, as the exploration showed. I drained it for a few days, and if the whole limb had done as well as the joint the specimen would not be here. But the lacerated tendons and skin sloughed so extensively throughout the popliteal space and calf that there was no hope of getting a useful leg, and grave risk of inability to keep aseptic the compound fracture. I therefore amputated the thigh, and the boy did well.

When a patella has been cut in two with a knife or saw, more care is required to fit the segments accurately together than after a fracture. In the latter case they interlock like the pieces of a puzzle. In the former they readily glide, tip, or gape. Catgut does very well for the suture, and in children it can be carried through the cartilaginous patella with a strong needle. When there is prospect of a movable

joint, cut aponeuroses should be united with buried catgut sutures. Cut ligaments should always be so treated. The crucial ligaments should be spared if possible, and they can be spared in most of the cases fitted for simple erasion.

Now as to drainage. Special tubes should be inserted into the superior synovial pouch. Generally the centre of the joint is best drained towards the side, the tube lying in a channel gouged for it in the surface of one or other condyle. A special lateral or postero-lateral opening may be made for it. This main tube should be large, especially if the joint has suppurated before operation. Indeed, in that case the tubes should all be large and permeate every part of the joint and everywhere the abscess may have burrowed. Secondly, one should not be in a hurry to remove these tubes. A fortnight for a case which is aseptic is not too much. And when a case is septic the tubes should be kept in until the knee is either ankylosed or amputated if it cannot be saved. Endless mischief is done by the eagerness of inexperienced people to withdraw drainage tubes.

With the use of sublimated wood-wool or turf-moss pads, and firm bandaging and strapping, aseptic cases will heal under one dressing, but a pedantic desire to obtain this is to be deprecated. If pain or a rise of temperature occur, and cannot be plainly referred to some obvious or removable cause, it is best to dress at once. Recurrent and secondary hæmorrhage used to be particularly frequent after excision of the knee. I always bandage the turf-moss or wood-wool pads

very firmly down at the first dressing, and the next day relax any uncomfortable pressure by snipping with the scissors, afterwards stretching strips of strapping across any gaping interval. Sometimes, especially in children, I do not tie a single artery, but apply the dressings before having the Esmarch's band removed. Since I have used thick sublimated pads of turf-moss or wood-wool I have never been troubled with hæmorrhage. They should be bandaged on very firmly and evenly, and the limb kept much elevated for the first twenty-four hours. Some surgeons do not use Esmarch's bandage for fear of troublesome recurrent hæmorrhage after it. No such fear need be felt when the value of such a mode of dressing and elevating as that just described is properly appreciated. I have seen great and even dangerous shock after excision of the knee without the use of the bandage. The more I see of operative surgery, the more am I convinced that so-called shock is generally due almost entirely to loss of blood, or, at all events, that most of what is serious and dangerous in shock is due to hæmorrhage. Another cause of shock is a long operation and its necessary accompaniment, prolongation of the anæsthesia. With a bloodless limb, one can operate faster, and, at the same time, better.

One of the greatest essentials of after-treatment is perfect, continuous, undisturbed fixation. Nothing secures this so well as plaster-of-Paris. But its universal use is very wasteful of the surgeon's time, which is no more an inexhaustible quantity in a civil hospital than on the field of battle. I have therefore sometimes put up fresh excisions with movable splints

for the first fortnight, by which time the wound is usually almost healed and the discharge has ceased, so that a small, thin, antiseptic dressing suffices. Over this a plaster-of-Paris case fits much better and more effectively than over a large turf-moss or wood-wool pad. During the first fortnight a weight extension may be found comfortable and satisfactory after erosion. It would be out of place in excision cases on account of the wires with which the bones should always be fixed together. Many surgeons prefer nails or screws to wires. I do not think anything can be simpler or handier or more effective than wires. Two are required, one on each side. They can be either buried permanently or arranged for removal. In the latter case they should be left for two months. Perfect osseous ankylosis must not be reckoned on under several months after any form of operation, not even when plaster-of-Paris is used continuously.

If it is asked to whom all the alterations—improvements, I hope—above noticed are due, it becomes difficult to do justice to the West London Hospital and to others at the same time. Primarily they are the logical outcome of a belief in antiseptic surgery and of the application of a variety of means due to different inventors, not the least important being Esmarch's bandage and the sublimated pads brought here from Germany. With regard to operative measures, incisions, modes of drainage, sutures, etc., I can honestly say that most of those I use I have worked out for myself, but I must add (1) that many are the same, or nearly the same, as have been lately described by French, German, and American surgeons; and (2)

that I did not divide the patella transversely until I had seen a case of Mr. Golding-Bird's. He, I believe, had been anticipated by Volkmann, who got the start of all of us English surgeons in these matters, and who is, moreover, a genius. To Mosetig-Moorhof of Vienna, more than to anyone else, we owe the anti-tuberculous use of iodoform. I was using pure carbolic acid for the purpose when I heard of Mosetig-Moorhof's observations, and I had good results with it; but iodoform has obvious and great advantages over a drug so caustic. I used to entirely cover the dressing with elastic bandage before the turf-moss pads came over. While house-surgeon in Birmingham, I learnt from Gamgee the value of pressure. Some British surgeons have also been working successfully with erosion, especially Wright of Manchester. If I needed anything to confirm my faith in the methods I have described, enough could be found in a recent paper by Professor Ollier of Lyons, the first authority in France on this subject, and second to none in Europe. The procedures he recommends are very similar to those in use at the West London.

Such, gentlemen, is a brief outline of what can be done, and what I believe ought to be done, in cases of chronic knee-joint disease fitted for operative treatment. It is but an outline. Each division of the subject would suffice for a complete paper, but I think you would now be more wearied than you are, had my address been devoted wholly to some single question, such as how to drain the knee after excision, or how to dress it after erosion. I would have liked

to have described Annandale's operation for subluxation of the knee—which I have tried. It consists in suturing the too movable semilunar cartilage to the superjacent fascia lata and aponeurosis. Concerning simple drainage of the knee there is much to be said. Of suture of the fractured patella you must have heard and read *ad nauseam*. Amputation through the knee-joint is a subject of great interest, of which our fellow-member, Mr. Pick, has had exceptional experience. I will only say that I prefer Gritti's method to any other. Then there are many diseases commonly called of the knee, but really affecting neighbouring structures—*e.g.*, genu valgum, genu varum, and also contractures and paralyses. And what a valuable addition to the surgeon's means is MacEwen's osteotomy for genu valgum !

But time, which can bring even tuberculous processes to an end, must stop even this long and, I fear, wearisome address. I would like, in concluding, to ask you not to imagine, because I have spoken almost entirely of operations, that I recognise no other surgery of the knee-joint. Sea-air, rest, plaster-of-Paris, and more than one variety of splint are invaluable means which no reasonable person should underrate. But to-night I thought I could interest you more by talking about other things ; that is all. It would ill become me to sit down without referring to my predecessors in this chair—to those who, not less than your election, have made it an honour to preside here. We are a semi-suburban society—the most successful and important suburban scientific society in the world, I would venture to boast ; and in what

respect have we been more successful than in our past presidents? I have neither the learning nor classical culture of Dr. Vinen, nor the wide knowledge of Dr. Thudichum combined with originality. Nor can I claim the natural dignity and charm of manner of Mr. Hemming, or the perfect common sense and experience of Mr. Lawrence. But I hope and believe that I do share with Dr. Alderson in feeling a most intense desire for the success of this society, and appreciation of the honour you have done me. Such feelings have been the guiding-star of my immediate predecessor. They have shone out as plainly and brightly as any lighthouse-lamp or beacon-fire, visible not only to our late captain himself, but to every one of his crew. And now the helm is handed over to me, I have but to remember the past year in order to carry in mind a chart for the future.

II.

THE RESPONSIBILITY PLACED ON THE PHYSICIAN AND GENERAL PRAC- TITIONER BY THE MODERN PROGRESS OF SURGERY.

*Retiring Presidential Address, delivered before the West London
Medico-Chirurgical Society, May, 1888.*

GENTLEMEN,—The eloquent Cavendish Lecture recently delivered before our Society by Sir William Stokes, dealt with the altered relations of medicine and surgery to each other, and called attention more especially to the marvellous increase which has occurred in our times of the power of surgery to cure internal diseases and deeply-seated injuries.

I would like to recur to the same subject, only less broadly, confining these remarks to certain points. If the fullest and most successful use is to be made of the increased power of surgery, it is absolutely necessary that there shall be cultivated to the utmost the systematic co-operation of the physician with the surgeon. In the term 'physician' is included the general practitioner, who cannot be more accurately described by any name than that of 'family physician.' A second necessity is that there should

spread widely throughout the whole profession a good working knowledge of the earliest symptoms of such affections as intestinal obstruction, perforation of the appendix vermiformis, or of other parts of the digestive tract, rupture of the stomach, or of the bladder, or of the kidney, renal calculus, peritonitis, perityphlitis, the various affections of the female generative organs, amenable to surgical treatment, and, passing to another part of the person, intra-cranial abscess and hæmorrhage and tumour. This anything but exhaustive list is given by way of example. Now, how many men are there in this room, how many are there in this city, how many in Great Britain, who have as good a practical knowledge of the diagnosis of, say, not only intra-cranial abscess, but even of renal calculus and acute intussusception as they have of typhoid fever and of pneumonia? Let our own consciences reply. And yet these things which are so obscure to many of us are not so exceedingly rare; they are also terribly fatal, but wonderfully remediable by correct surgery *promptly applied*, while such diseases as pneumonia and typhoid often require no active treatment whatever. At all events, in dealing with the latter, a policy of waiting until the diagnosis is clear may do no harm.

But in the case of almost all the acute, and some of the subacute, internal diseases now brought into the province of surgery, to wait is to be lost. I would like to go into detail and tell of case after case in which the surgeon was appealed to by the practitioner, or even by the consulting physician, only when the shadow of approaching death had already crept over

the patient. But as each case would be recognisable by those who had to do with it, there would be danger of appearing to reproach individuals, and to reproach at all is the last end I have in view. I know too well, and feel too strongly, how intensely difficult is the path we have to tread, how inaccessible the ideal goal at which we should aim. Nevertheless, let us set up this ideal, and with kindness and earnestness encourage each other to struggle onward towards it.

A first word of encouragement with regard to cases of intestinal obstruction is this : It is almost always, when once the abdominal cavity is opened, easy to speedily discover the exact nature, locality, and anatomical extent of the trouble. Such manœuvres as passing yards of small intestine, inch by inch, through the fingers are things to read about in books and avoid in practice. Often an intussusception can be felt at once ; many have been discovered through the abdominal wall or per rectum before the operation. The first coil of intestine that appears in the wound, frequently, by its inflamed appearance, growing fainter in one direction, and more intense in another, guides straight to the constricting band or other source of mischief.

Secondly, the seat of disease or injury once found, it can usually be easily reached and dealt with in whatever part of the abdomen it may be. For instance, although the promontory of the sacrum and the right sacro-iliac synchondrosis cannot be dragged out of the abdominal incision, the latter can be pressed backwards towards them. Let no one, there-

fore, be deterred from counselling operation for intestinal obstruction by the idea that the seat of disease will be either difficult to find or to get at.

Thirdly, an abdominal exploration, properly conducted, in a case not too far gone, can be made with almost absolutely no danger. Here is a typical example : Some years ago a man was admitted into W. L. H. ward of the West London Hospital with symptoms, recent and not severe, of strangulated or obstructed hernia. It was thought that the contents of the sac might be hooked back easily from within the abdomen. Two fingers were inserted through a small opening in the linea alba and the attempt made. As much force was used as was reasonable, but in vain. Then a regular ordinary herniotomy was done, and omentum found adherent to the fundus of the sac, which accounted for the irreducibility *à tergo*. The sac and omentum were excised. Recovery was as quick and uncomplicated as could be. The median abdominal incision produced no ill-effects whatever. Now let us suppose that the same man had had similar symptoms, but no hernia. He would have been a type of those cases in which there are suspicious but not conclusive signs of intestinal obstruction. Better that twenty such barren explorations should be made than that physician or surgeon should sit down and watch one genuine case of intestinal obstruction steadily and surely perish. But even in the practice of the most inveterate discoverer of mares' nests, no such proportion of barren explorations to successful operations would occur. There would more likely be twenty of the latter to one

of the former. For, really, the serious cases are generally plain enough, even after a few hours. The acute pain, the gushing vomit, the collapse, the constipation which mark acute obstruction, do not form a collection of symptoms which are every day seen to clear themselves up. And there is usually a significant history to help to the diagnosis of a case of chronic obstruction.

With regard to acute obstruction, the case is well put by Mr. Greig-Smith in his most interesting and valuable work on abdominal surgery. 'At once, or within a few hours, we ought to make a definite diagnosis. If we are convinced that it is acute obstruction, then operation should be performed at once; if we are convinced that it is not, another treatment equally definite ought to be pursued. From the beginning a definite plan of treatment ought to be laid down, and this plan ought to be adhered to. Let it be either drugs or operation, and never that fatal compromise—operation when drugs fail.'

In the surgery of the brain, to which Sir William Stokes particularly called our attention by his narration of his own instructive cases, quick diagnosis is not of so great importance as correctness, especially in the matter of localization. But it is possible to throw very valuable time away, and especially in the treatment or neglect of surgical treatment of some of the ear diseases which lead to so large a proportion of the cerebral abscesses which occur. And correct localization is often greatly assisted by careful observations of where such symptoms as paralysis and spasms *begin*. The earliest of these symptoms are

the most valuable. When the progress of the case has made paralysis more or less general then the symptoms no longer point to a particular centre.*

In general surgery it is equally important, if full advantage is to be taken of the improvements made by Lister and others, to act in time. Volkmann introduced the practice of classifying amputations, for statistical purposes, into 'complicated' and 'uncomplicated,' the former being such as those in which pyæmia previously existed. In the class of cases termed 'uncomplicated' the improvement in results which has followed the introduction of Listerism is well known to be wonderful. Not so with regard to 'complicated' or pyæmic cases. These do very little better now than formerly.† It is, even in 1888, still useless to lock the stable-door when the horse is stolen. In short, gentlemen, antiseptic surgery can do marvels, but not miracles. In order that it may do successfully its mighty share in the salvation of human life, and the alleviation of human misery, it requires primarily and essentially an extensive and sound knowledge of symptoms and power of diagnosis on the part of the great body of the profession.

* A patient with suspected lesion of the brain or its membranes should be attentively and frequently watched, as the first symptoms of cerebral irritation, *e.g.*, convulsions, give the most valuable indication of the localization of the injury; also the temperature should be taken frequently, as an ominous rise may be sudden and rapid. Dr. Robertson of Glasgow thinks an intelligent observer should be in constant attendance on such cases.

† For instance, Billroth's statistics show a gradual decline of the death-rate after major amputations in non-complicated cases from 35·1 per cent. to 5·7 per cent. ; but of 'complicated' cases he still lost 10 out of 17.

This task of early diagnosis may be, in fact is, difficult, but it is honourable exactly in proportion to its difficulty. The acute, well-read, observant, and thoughtful man who diagnoses and localizes a cerebral abscess, whether he be consulting physician or country practitioner's apprentice, deserves more credit than the surgeon who, proceeding by rule of thumb, just as he would if carving a turkey, lets out the pus. The general standard of medical attainments is not now what it was, and the time is gone by when the highest ambition of practitioners was thought to be duly satisfied when, in the history of a case, they were merely named as having sent it to the consultant.

THE END.

